Karin Brown

PowerSchool Administrator and Technology Integrationist

St. Paul Preparatory School, St. Paul, MN

October 24, 2015

From Lecturing to Facilitating:

My Journey through the Educational Technology Program

**Introduction**

In the fall of 2013, I enrolled in the Master of Educational Technology (M.E.T.) program through Boise State University in an effort to improve the way I used technology in my classroom. This was especially important to me since the school where I taught implemented a 1:1 iPad program in 2012. The coursework I completed in the M.E.T. program taught me how to effectively integrate technology into the classroom and also allowed me to share this knowledge with my fellow teachers.

The main purpose of this rationale paper is to demonstrate mastery of the Association of Educational Communications and Technology (AECT) standards of 2012. There are five main AECT standards, including Content Knowledge, Content Pedagogy, Learning Environments, Professional Knowledge and Skills, and Research. Each standard also contains several indicators, which give more detailed information about how mastery of the standard is assessed (Januszewski & Molenda, 2008).

This paper is organized first by standard, and then by indicator. Each standard will contain links to several different artifacts, or assignments, I completed during the M.E.T. program that show mastery of that particular standard. Next, each indicator will be listed with a brief discussion on how the chosen artifact demonstrates mastery of the indicator. These discussions will not only address the work that was necessary to achieve the indicated benchmarks, but will also consider the connection of the artifact to teaching practices and educational technology theories. Finally, the discussions will also serve as an opportunity for me to explain how my teaching practices and thoughts about teaching were impacted during and after the creation of the artifact.

**STANDARD 1: CONTENT KNOWLEDGE**

[503- Final Instructional Design Project](https://docs.google.com/document/d/1PfP49MymgIvCZX6zL8YTpRYihASm2XIN1-lMQN6eTbA/pub): This project was an exercise in working with a content area outside of the one I normally taught. I taught high school math for four years, but I also had a license to teach Spanish. I hadn’t used my Spanish degree in a while, so I partnered with the Spanish teacher at my school to create a technologically enhanced unit on the preterite tense. The unit I created contained several components, including learner surveys to determine what learners already knew, activities which used varying types of technology, content analysis, assessments, and learning objectives.

[533- Interactive Video Project](https://www.youtube.com/watch?v=QRsMafWFFLE): For this project, I had the opportunity to create an interactive video on YouTube. An interactive video means that one video contains one or more links to other videos. For my project, I focused on math in architecture. The first video ended with a map containing links to famous landmarks around the world. These links led to videos which gave more details about how each landmark’s architecture was related to math. This interactive video is an interesting and non-traditional way for students to learn about math in architecture.

[505- Final Evaluation Project](https://docs.google.com/document/d/1j-NBfCrj0Hl5OUw5H6wOCkpKWs8TPRheBQEbZ1sPPAY/pub): This assignment was the culminating activity for EdTech 505. For this project, I assessed my school’s 1:1 iPad program and determined whether or not it achieved its goals. I assessed the achievement of the goals primarily by using teacher surveys, student surveys, and information about the change in paper use after several years of the iPad program. In the final report, I discussed the goals of the program, the methods used to determine if the goals had been achieved, the extent to which each goal had been achieved, and suggestions on how the goals could be better achieved in the future.

[552- Assignment 6](https://docs.google.com/document/d/1GFRreBZeK5zSzI5qEi8fbC72Z9VeEMgjTtSUCSdNXlA/pub): EdTech 552 was a class about network programming. For this particular assignment, I had to answer questions about configuring passwords, host names, routers, and more. I also answered questions about running different commands through a command prompt. Finally, I described the process of creating routes between computers and routers so that data can flow between machines.

[551- Final Grant Project](https://docs.google.com/document/d/1nPKgr-WyvpBeSLKwHWwXEhxCx7jO2SqFnv-zw__yc2c/pub): EdTech 551 was a course about grant writing, and the final project I completed was a grant for graphing calculators. My school had iPads for every student, but they did not have graphing calculators. The iPads have graphing calculator apps, but iPads are not allowed on standardized tests or college entrance exams, so I wanted to give my students tools that would help them on these important exams. The grant I wrote included a needs analysis, goals, objectives, sample graphing calculator activities, an assessment plan, and more.

[554- Leadership Assignment](https://docs.google.com/document/d/1ivsNPMFvfhZmAYMtFHbR_C2UgiIM5AQ-1tRDV8NyciI/pub): For this assignment, I was asked to come up with a list of traits or qualities that a leader in educational technology should have. Then, I was asked to find a way to represent those traits with a physical object in a drawing. For example, I thought leaders in educational technology should be supportive, so I incorporated a cane into my picture, since canes are used for support. This assignment helped me articulate what qualities I find important in an educational technology leader so that I can try and cultivate those same qualities in myself.

[501- Digital Divide Presentation](http://voicethread.com/new/share/7006443/): For this assignment, I explored the definition and prevalence of digital inequality and the digital divide. Many students living in poverty or low-income households do not have access to high-speed internet or adequate technological devices, even though they need these tools to help them break the cycle of poverty. In this presentation, I explain what the digital divide is, how it affects the students in the district where I taught, and what options are available for lessening or eliminating the digital divide in the district.

**Indicators**

*Creating - Candidates demonstrate the ability to create instructional materials and learning environments using a variety of systems approaches.*

To demonstrate mastery of this indicator, I chose the Instructional Design Project I created in EdTech 503. I chose this artifact because the instructional unit I created contained a variety of different activities that gave students the opportunity to learn the preterite tense. Throughout this unit, students would use their iPads as personal whiteboards, write captions for images in a slideshow, create a timeline of things they’ve done recently, act out a peer’s timeline, speak with their peers about what they have or have not done in the past, listen for Spanish preterite verbs in a popular song, write about their favorite foods, and more. This artifact shows mastery of the Creating indicator because it shows that I know how to create lesson plans and units which contain a variety of activities that help students learn in different ways. This is especially important when one takes into consideration the wide variety of intelligences and preferred learning styles present in any given classroom. This artifact also shows mastery of the indicator because I used a variety of systems approaches as I created it. I used student surveys, a teacher survey, peer feedback, and the ADDIE model, which stands for Analysis, Design, Development, Implementation, and Evaluation. This process is cyclical in nature, meaning that every time I go through the process and finish evaluating my artifact, I can go back to the Development stage to improve it and implement it in a new way. The Instructional Design artifact taught me many new methods for developing instruction.

In education, the endeavor to find a variety of teaching methods is important to lead to learning and teaching that is healthy and sustainable. For this reason, educators need to use contemporary approaches which appeal to all students (Akkuzu & Akçay, 2011, p. 1004). It is important to incorporate a plethora of different activities in a single unit so that each student has the opportunity to learn some of the material in the way he or she learns best. In practice, this helped me to become more cognizant of the fact that traditional lectures and worksheets do not necessarily help every student learn. When I plan lessons, whether they’re for my own classroom or for the teachers I help in my technology integration role, I now strive to create variety so that all students have the best opportunities to learn.

*Using - Candidates demonstrate the ability to select and use technological resources and processes to support student learning and to enhance their pedagogy.*

For the Using indicator, I chose the Interactive YouTube video I created in EdTech 533. I chose this artifact because I feel it demonstrates my ability to use non-traditional methods to teach students about math. The video I created was posted on YouTube, a site many of my students already enjoy using. It was also interactive and required student input, which means they were engaged in the lesson. I believe this artifact shows mastery of the indicator because it highlights my ability to support student learning with technology. I now know how to create interactive YouTube videos, so I could create more of these types of videos on a variety of topics, which would enhance my pedagogy. What’s more, interactive learning has the potential to improve student learning if it is implemented well. As Bowen, Chingos, Lack, and Nygren (2012) stated,

The research reported here demonstrates the potential of truly interactive learning

systems… to provide some forms of instruction, in properly chosen courses, in

appropriate settings. Our findings demonstrate that such an approach need not negatively

impact learning outcomes—and conceivably could, in the future, improve them as these

systems become ever more sophisticated and user-friendly. (p. 28).

In terms of my thoughts about teaching, I have realized that students typically learn better when they are involved in their learning. Sitting in desks absorbing information from a lecture is not generally as effective. In the future, when I plan lessons, I will incorporate student interaction into the activities as much as possible.

*Assessing/Evaluating - Candidates demonstrate the ability to assess and evaluate the effective integration of appropriate technologies and instructional materials.*

I selected the final project I completed in EdTech 505 to show mastery of this standard because the project entailed evaluating my school’s 1:1 iPad program. This project gave me the opportunity to look at the program’s goals, use surveys and other tools to gather data, and then use the data to determine if the goals had been met. This process helped me evaluate whether the technology had been integrated effectively, which shows mastery of the standard. There is a strong relationship between evaluation and effective practice. When learning something new, students are almost always evaluated by their teachers. This evaluation gives students a chance to reflect on their learning and see what they did well and what they could improve upon, which helps students to deepen their understanding. The same was true for my evaluation project. I had been using the iPads in my own teaching for over two years, but reflecting on the goals of the iPad program and if they had been achieved in my classroom helped me realize what I could do to improve. Parker and Heywood (2013) reiterated the importance of reflection on learning in their article about a reflective component for student teaching in a science class. They stated,

A fundamental condition in developing [pedagogic content knowledge] is the obtaining

of a deeper understanding of subject content and pedagogy within the practicum context.

Approaches such as team teaching and videotaping teaching, review of experience, and

the opportunity to reflect on the process were found to be critical features of supporting [pedagogic content knowledge] development. (p. 411).

This quote shows that reflection and evaluation of performance is important for all learning. This project and the associated standard have helped me see that reflection and evaluation of performance are vital to obtain deep learning and understanding.

*Managing - Candidates demonstrate the ability to effectively manage people, processes, physical infrastructures, and financial resources to achieve predetermined goals.*

I chose three different artifacts to demonstrate mastery of the different components of this standard. I first chose Assignment 6 from EdTech 552 because this assignment shows my ability to manage computers, passwords, networks, and more, fulfilling the physical infrastructures portion of the standard. The next assignment I chose was the final grant I wrote for EdTech 551. Grants are used quite often in schools and other non-profit organizations to obtain funding for different tasks or projects. My ability to write a well-written grant fulfills the financial resources portion of the standard. Finally, I chose the leaderships assignment from EdTech 554. This assignment demonstrates my ability to articulate the necessary qualities a leader in educational technology should have, which in turn taught me what qualities I should cultivate in myself if I hope to be an effective educational technology leader. This fulfills the people and processes portion of the standard.

Educational technology is much more than using cell phones, tablets, or other devices in the classroom. As this standard shows, there are many different components to a successful educational technology implementation plan. Because of the variety of courses and assignments I completed during the Master of Educational Technology program, I feel confident that I have a solid understanding of the many facets contained within the field of educational technology. As a result, I can now communicate to other teachers the numerous factors that must be considered in order for the implementation of educational technology to be successful.

*Ethics - Candidates demonstrate the contemporary professional ethics of the field as defined and developed by the Association for Educational Communications and Technology.*

I chose the Digital Divide presentation for this indicator because it demonstrates my understanding of the difference in access between students of different socioeconomic levels. It also demonstrates my understanding of the importance of providing each student with the tools necessary to succeed in school. This assignment indicates mastery of the standard because the presentation shows my knowledge and understanding of the digital divide and also shows my ideas for solving the problem of digital inequality. If students do not have the necessary technological access at home to complete their schoolwork, they will not be able to do well in school, which may perpetuate the cycle of poverty. In order for students to succeed, they must be provided with the necessary tools if they do not have the capabilities to provide them for themselves. In regards to my thoughts about teaching, this assignment reminded me of the importance of giving students an equal chance to succeed whenever possible, no matter their socioeconomic status, race, gender, or any other quality. All educators must make a conscious effort to ensure every student has the necessary tools to succeed.

**STANDARD 2: CONTENT PEDAGOGY**

[541- Social Networking Assignment](http://karinbrownboisestate.weebly.com/social-networking-lesson.html): For this assignment, I had to create a lesson plan that incorporated at least three different forms of social media. The lesson had to fit in to my thematic unit on right triangles in Geometry. For the lesson I created, I had students search for photos on Flickr, bookmark images and websites using Pinterest, create a presentation with voiceover using Voicethread, and communicate with experts and peers using Facebook. These forms of social media allowed students to create projects for a wider audience while learning content.

[541- Interactive Presentation Assignment](http://karinbrownboisestate.weebly.com/interactive-presentation.html): For this assignment, I was asked to create a presentation that included student interaction. The presentation discussed different uses of the Pythagorean Theorem in real life, and it was interactive because it included a poll. Students could respond to the poll using iPads, cell phones, or a web address, and the results can be seen in real time. This presentation was a great example of how to get students involved in class and it also showed students the usefulness of the Pythagorean Theorem in different situations they may encounter in the future.

[501- Evaluation Assignment](https://docs.google.com/document/d/1UPmNN58hkITLp9_A4qHAkX6iECpqIN8zMCmZF1kGKrg/pub): In this assignment, I evaluated my school’s level of Technological Maturity. I conducted this evaluation using school demographics and my own observations of how my fellow teachers and I used technology in the classroom. The evaluation relied on a number of different subtopics, including administration, curricular filters, teacher use, student use, support, training, connectivity, innovation, and more. At the end of the assignment, I gave the school an overall Technological Maturity score based on the multiple benchmarks I considered.

[554- Yearlong Professional Development Assignment](https://docs.google.com/document/d/1GJXXiimxjDfpl-T8PG1LXZZCl8ogf3ZgFfREZ-Lq75I/pub): This project gave me the opportunity to create a yearlong professional development plan for SMART Boards. The plan included many components, including information about objectives, participants, facilities, and timeframe. It also included the steps that would need to be taken to train the teachers throughout the year, as well as a specific lesson plan for one of the training sessions that would occur during the yearlong process. Finally, the assignment included a list of potential obstacles to implementing the training, how the obstacles could be overcome, and the potential support available from administration and other staff.

[502- Geometry in Architecture Assignment](http://edtech2.boisestate.edu/karinbrown/502/start.html): This assignment was designed as a virtual field trip for students. The website I created contains five different subpages, each of which describes a unique landmark. Each page contains a photo tour of the landmark, a video about it, and questions to answer. The questions pertain to Geometry, covering topics such as reoccurring shapes, congruence, similarity, proportions, and more. This activity is a great way for students to see the relevance and importance of Geometry in architecture and is also a fun and exciting way for students to explore mathematical topics.

**Indicators**

*Creating - Candidates apply content pedagogy to create appropriate applications of processes and technologies to improve learning and performance outcomes.*

I chose the Social Networking Lesson Plan for this standard because it is a perfect example of using an appropriate technology that will interest students and motivate them to learn. In particular, I believe the part of the lesson where students share their video projects with either content area experts or other students will be highly motivating for students because they might not want to share something on Facebook that would cause them embarrassment. This lesson plan would help students learn more and help them achieve higher performance outcomes, which shows mastery of the standard. What’s more, when students post something to social media, it gives them a sense of accomplishment and ownership. As Amir, Ismail, and Hussin (2011) stated, when students post assignments online through blogs, they are part of “an exciting and motivating learning environment where the students have a sense of ownership and readership. Blogging increase[s] student interest, motivation and confidence” (p. 541). The same principle extends beyond blogging to any social media website where students know others will see their work. Sharing assignments with someone other than the teacher has many benefits for students. In the future, as I help teachers plan lessons that include technology, I will be sure to explain this finding to them so they can see the benefit of allowing their students to share their hard work with a wider audience.

*Using - Candidates implement appropriate educational technologies and processes based on appropriate content pedagogy.*

I chose the Interactive Presentation Assignment for this standard because it allows students to interact with the contact using technology. First of all, they are viewing a Google slideshow, which means they can view a particular slide for as much or as little time as they need until they understand the material on that slide. Also, this presentation incorporated a poll to which students could respond using their iPads or cell phones. This presentation shows mastery of the standard because it uses an appropriate educational technology based on research which indicates that students learn more effectively when they are involved in their learning. The traditional lectures in which students sit idly and absorb information are no longer effective. As Houston and Lin (2012) stated, no matter the circumstances,

No teacher could incorporate lessons to fit all learning styles in a traditional classroom   
 lecture environment. Advances in online multimedia… have advanced enough to allow   
 instructors to provide a menu of options for student to use in learning…[allowing]   
 students to choose the best method to reach [the instructor's desired learning]  
 outcome. (p. 1178).

As more advances are made in the field of educational technology, there will be more options for teachers to use outside of traditional lectures. In the future, as I help teachers plan lesson that incorporate technology, I will emphasize the importance of involving students in their own learning so that each student can find a way to learn in his or her preferred way.

*Assessing/Evaluating - Candidates demonstrate an inquiry process that assesses the adequacy of learning and evaluates the instruction and implementation of educational technologies and processes grounded in reflective practice.*

I chose the Evaluation Assignment I completed in EdTech 501 for this standard because it gave me the opportunity to evaluate my school and its level of technology integration. Because I assessed administration, technology use, level of support, infrastructure, and more, I was able to obtain a clear picture of how well my school was incorporating technology and where it could improve. This assignment shows mastery of the standard because I used a rigorous inquiry process to assess how effectively technology was being used to improve student success. Evaluation is an integral part of learning, and as a new Technology Integrationist, I am still figuring out the best ways to incorporate technology into the classroom. This assignment helped me gain the reflective skills necessary to evaluate educational technology and the plans I make to use it with students. Because of this assignment, I now understand the importance of evaluating lessons that incorporate technology and will evaluate my performance after every lesson I plan.

*Managing - Candidates manage appropriate technological processes and resources to provide supportive learning communities, create flexible and diverse learning environments, and develop and demonstrate appropriate content pedagogy.*

I chose the Yearlong Professional Development Assignment for this standard because it is an example of my ability to plan a year’s worth of professional development for teaching staff. To make such a plan, I had to discuss how I would achieve the year-long objectives, check for prior knowledge, give training to teachers, support them throughout the year, assess their growth, and more. This shows mastery of the standard because, if I were to carry out this plan, I would have to manage technological processes and resources, provide support to teachers, model for them how to support each other, create a variety of learning environments while providing training, and demonstrate how to properly use the SMART Boards. This assignment was very important in helping me develop the skills necessary to be an effective Technology Integrationist because it helped me see the value and importance of professional development. Almazroa (2013) detailed three major benefits of professional development for teachers, including helping them recognize the special expertise necessary for their grade level or content area, continuing the work that began in pre-service teacher education, and helping them grow, develop, and improve their teaching quality (p. 1). Professional development, and all the things that go along with it, are essential to the effective integration of any technology, and I will do my best to emphasize its necessity in my current position.

*Ethics - Candidates design and select media, technology, and processes that emphasize the diversity of our society as a multicultural community.*

I chose the Geometry in Architecture Assignment for this category because in it, I ask students to look for Geometry in several famous landmarks from around the world. The five landmarks covered in the activity are located in five different countries around the world. In the small town where I taught at the time, most of my students had never visited another country, and a good portion of them had never left the Midwest. One of the objectives of this assignment was to open students’ eyes to the amazing things that exist around the world and to hopefully inspire them to explore it more. This artifact shows mastery of the standard because it shows students that our world is a diverse place with many things to offer, even if those things may be different from what they’re used to seeing in their hometown. Also, this assignment can show students how architecture from other countries has influenced architecture in the United States, if they look for similarities between the landmarks on the web page and the landmarks they see every day. Since I’m now a Technology Integrationist for an international school where only about 10% of our students are American, I am grateful that this assignment taught me how to incorporate a plethora of cultures into a technological activity so that I can help teachers instruct the diverse student population at our school.

**STANDARD 3: LEARNING ENVIRONMENTS**

[503- Final Instructional Design Project](https://docs.google.com/document/d/1PfP49MymgIvCZX6zL8YTpRYihASm2XIN1-lMQN6eTbA/pub): This project was an exercise in working with a content area outside of the one I normally taught. I taught high school math for four years, but I also had a license to teach Spanish. I had not used my Spanish degree in a while, so I partnered with the Spanish teacher at my school to create a technologically enhanced unit on the preterite tense. The unit I created contained several components, including learner surveys to determine what learners already knew, activities which used varying types of technology, content analysis, assessments, learning objectives, and more.

[504- Final Research Paper](https://docs.google.com/document/d/1esoaVPeor7qgsTeNbs58dmAdv4R-MUqQWXZtzWJGYTs/pub): EdTech 504 taught me about the theoretical foundations behind Educational Technology. I learned that the things I studied in this program are grounded in theories that have undergone years of research. The final project I completed for this class was a paper in which I was asked to connect a learning theory to some form of Educational Technology that teachers could use in their classrooms today. For my paper, I focused on the constructivist learning theory and blogs. More specifically, I discussed how blogs can help students reflect and collaborate in their classroom assignments and how discussion and reflection fit in the constructivist learning theory.

[501- Evaluation Assignment](https://docs.google.com/document/d/1UPmNN58hkITLp9_A4qHAkX6iECpqIN8zMCmZF1kGKrg/pub): In this assignment, I evaluated my school’s level of Technological Maturity. I conducted this evaluation using school demographics and my own observations of how my fellow teachers and I used technology in the classroom. The evaluation relied on a number of different subtopics, including administration, curricular filters, teacher use, student use, support, training, connectivity, innovation, and more. At the end of the assignment, I gave the school an overall Technological Maturity score based on the multiple benchmarks I considered.

[552- Assignment 3](https://docs.google.com/document/d/1SNt8emq83aA-JfQKnGJhWz3Ge0XPmv9_fVmfWBP9mS0/pub): EdTech 552 focused on networking and setting up ways for computers in the same network to work together. This assignment focused on converting IP addresses into binary code and vice versa. It also focused on how to determine the possible IP addresses that could be assigned to a specific computer, depending upon what class it belonged to. I also learned how to tell what class a computer is in based on the format of its IP address. Finally, I learned that the first and last numbers of a host address are reserved as Network IDs and Broadcast Addresses.

[502- Copyright Scavenger Hunt](http://edtech2.boisestate.edu/karinbrown/502/scavenger.html): This web page is an activity created for those who are just starting to learn web design or who want to learn more about copyright laws. The site contains a worksheet for learners to fill out as they complete the activity. The web site was created as a scavenger hunt, meaning that learners will follow links to pages that contain the answers to the questions on the worksheet. Throughout the activity, learners will gain information about how copyright is defined, how copyright laws protect the authors of a work, how the laws apply to works that have multiple authors, how Fair Use is defined, how authors go about copyrighting the works they’ve created, and more.

[503- Rules for Internet Safety Blog Post](https://karinbrownboisestate.wordpress.com/2015/07/28/rules-for-internet-safety/): This blog post is intended to give students information about how to use the internet in a safe way. It gives four tips on what to avoid and what to do to protect yourself and your devices from harm. It also contains links to more information about how to use the internet without unknowingly engaging in risky behavior. It is also a good resource for parents or teachers to use when teaching children or teens how to be safe online.

[541- Content Area Project](http://karinbrownboisestate.weebly.com/content-area-project-2.html): For this project, I created two lessons that incorporated educational technology. In one of them, I was required to use tools that were outside my normal content area of mathematics. For the first project, I created a lesson that utilized simulations so that students could use virtual manipulatives to discover mathematical relationships for themselves. For the second project, I created a lesson where students would write an e-book about the history of a mathematical topic. The e-book lesson was a great opportunity for students to see that math is more than numbers and formulas and has its own history.

**Indicators**

*Creating - Candidates create instructional design products based on learning principles and research-based best practices.*

For this indicator, I chose the Instructional Design Project I created in EdTech 503 because I created an instructional unit for a Spanish class which encompassed several days’ worth of lessons. The majority of these lessons incorporated technology in some way and were based on the Constructivist approach. I also chose this project because it shows my ability to create an instructional design unit. This artifact shows mastery of the standard because the final product, the instructional unit I created, includes lessons based on the learning principal of Constructivism. What’s more, the activities within those lessons gave students opportunities to interact with each other and with the content, which is more effective than lecturing.

Constructivism is very conducive to language learning because it allows learners to use the language in ways they can expect to use it in their lives outside of the classroom. As Nikitina (2010) stated, constructivism “champions a learner-centered approach to teaching, advocates learning in meaningful contexts and promotes problem-based activities where the learners construct their knowledge through interaction with theirpeers” (p. 90). This assignment gave me the opportunity to create lessons that mirrored situations that students might experience in the future. Going forward, I will focus on creating lessons that are equally useful to students, whether they’re intended for a language classroom or not.

*Using - Candidates make professionally sound decisions in selecting appropriate processes and resources to provide optimal conditions for learning based on principles, theories, and effective practices.*

I chose the research paper I wrote for EdTech 504 for this standard because the paper focused on educational theory as well as technology. When I first decided to write about constructivism, I had to find a way to incorporate a form of educational technology into the framework of this theory, so I conducted research and made the decision to write about blogs. I chose blogs because of their ability to promote reflection and discussion, which are two components that fit well with constructivism. This artifact shows mastery of the standard because it shows my ability to conduct research to make professional decisions about selecting technology based on how it fits with educational theory. Before this assignment, I knew about blogs and that they could be used in education, but it wasn’t until I conducted the research and wrote the essay that I realized how beneficial they could be for students. Reflection and discussion are two strategies that help students take control of their own learning and share their knowledge with an authentic audience, so in the future, I will do my best to incorporate them into the lessons I plan.

*Assessing/Evaluating - Candidates use multiple assessment strategies to collect data for informing decisions to improve instructional practice, learner outcomes, and the learning environment.*

I chose the Evaluation Assignment I created in EdTech 501 for this standard because I used a variety of strategies to gather information to assess my school’s technological maturity. I used information about student ages, percentage of students that qualify for free and reduced lunch, student ethnicity, personal interactions with administration, observations of my teaching and my coworkers’ teaching, conversations with coworkers, personal experiences with infrastructure, and more. This artifact shows mastery of the standard because I used multiple assessment strategies to collect data and make decisions about the technological maturity of my school. This information helped me give suggestions to administrators about how to improve student learning and create more positive outcomes. Using multiple assessment strategies has been discussed by numerous researchers, including DePoy and Gitlin (2015) who stated, “Another technique that increases the accuracy of information gathering is called *triangulation*… [which means using] multiple approaches that bear on the same phenomenon” (p. 264). Data typically becomes more meaningful and more accurate if there are multiple strategies employed during the research process. Because of this assignment, I now understand the importance of triangulation and will do my best to incorporate it into the research I conduct in the future.

*Managing - Candidates establish mechanisms for maintaining the technology infrastructure to improve learning and performance.*

There are many tasks that must be completed in order to maintain technology infrastructure and keep it running smoothly. Some of these tasks includes creating IP addresses for computers, tablets, and other electronic devices, converting IP addresses to and from binary code, and setting aside a block of IP addresses for machines in a certain room or area of a building. I chose Assignment 3 from EdTech 552 for this standard because it shows my knowledge of how to complete all the aforementioned tasks. This assignment taught me about IP addresses and how to use them to create a functioning network of computers. This artifact shows mastery of the standard because it demonstrates my ability to both create a new network and maintain a network that is already in place, both of which are key components in sustaining a technology infrastructure. Educational technology is not very useful or effective if the machines or the internet access are not working properly, so it is vitally important to ensure everything is updated and running smoothly. As a Technology Integrationist, part of my job is to troubleshoot technology when it stops working. Because of this assignment, I know what I need to do to prevent technological failures and what I can look for when trying to fix something that’s broken.

*Ethics - Candidates foster a learning environment in which ethics guide practice that promotes health, safety, best practice, and respect for copyright, Fair Use, and appropriate open access to resources.*

I chose the Copyright Scavenger Hunt for this standard because it is an activity that teaches students about copyright laws and how to abide by them. I also chose the Rules for Internet Safety Blog Post because it is a guide intended to teach students how to use the internet safely. These assignments showed me that I can’t take responsible internet skills for granted. Students do not necessarily know how to be safe and responsible on the internet, and they may need to be explicitly taught these skills. The assignments show mastery of the indicator because they show my ability to foster a learning environment that promotes safety and responsibility when using the internet, as well my ability to teach students about copyright laws and how to safely use works found on the internet. It is very important to teach today’s students how to use the internet in a responsible manner, because today’s students are spending more time online than ever before. As Moreno, Egan, Bare, Young, and Cox (2013) stated, “Today’s youth… spend up to 10 hours a day using various forms of media. The ever-increasing popularity of social media, including websites such as Facebook and Twitter, have contributed to youth’s time investment in the internet” (p. 1). As students spend more and more time on the internet, it is important that they learn about internet safety and how to use the internet in a positive way. I will keep this information with me in my role as a Technology Integrationist and ensure that the students at my school learn the necessary skills to become safe and productive internet users.

*Diversity of Learners - Candidates foster a learning community that empowers learners with diverse backgrounds, characteristics, and abilities.*

I chose the E-Book Lesson Plan for this standard because creating an e-book gives learners the opportunity to showcase their talents. If a student is gifted in photography or photo editing software, he or she could incorporate these images into the e-book. If a student has a talent for writing poetry, he or she could incorporate that skill into the e-book. Perhaps another student excels at telling stories and could turn a routine assignment about the history of mathematical topics into something comical or dramatic. This assignment gives students opportunities to be creative and show others what they can do. This artifact shows mastery of the standard because it allows learners from all backgrounds to incorporate their personality or their talents into the project. Students would have free reign to tell the mathematical history of a topic in the way they thought best. This creates a learning community that embraces diversity in background and abilities. Also, this assignment gives every student an equal opportunity to have his or her voice heard. Often times, shy or introverted students do not like to speak up in class. However, with a project such as an e-book, every student has the opportunity to contribute to the discussion. This creates a more balanced and supportive environment for students. As I help teachers in my role as a Technology Integrationist, I will work with them to create lessons that allow students from all cultures and backgrounds to have an equal opportunity to express what they’ve learned.

**STANDARD 4: PROFESSIONAL KNOWLEDGE AND SKILLS**

[504- Peer Review Assignment:](https://docs.google.com/document/d/163FihpF5R_eIQ5zR1CeIjDH1u820LUoMEZn6NoZWyYQ/pub) For this assignment, I was asked to exchange a rough draft of my final paper with another student so that we could give each other feedback. During this process, I gave my classmate feedback on APA citations, grammatical errors, formatting oversights, and spelling mistakes, in addition to suggesting improvement that could be made to content. I pointed out areas that could use more detail, references that I thought supported the paper well, areas that could use more personal input, and more. At the end of the paper, I gave my opinions of the paper as a whole and told my classmate what grade I thought her paper would earn if left as is. My classmate did the same work on my paper, and in the end, we were both able to make our essays better based on the feedback we received.

[554- Leadership Assignment](https://docs.google.com/document/d/1ivsNPMFvfhZmAYMtFHbR_C2UgiIM5AQ-1tRDV8NyciI/pub): For this assignment, I was asked to come up with a list of traits or qualities that a leader in educational technology would have. Then, I had to come up with a way to represent those traits with a physical object in a drawing. For example, I thought leaders in educational technology should be supportive, so I incorporated a cane into my picture, since canes are used for support. This assignment helped me articulate what qualities I find important in an educational technology leader so that I can try and cultivate those same qualities in myself.

[505- Final Evaluation Project](https://docs.google.com/document/d/1j-NBfCrj0Hl5OUw5H6wOCkpKWs8TPRheBQEbZ1sPPAY/pub): This assignment was the culminating activity for EdTech 505. For this project, I assessed my school’s 1:1 iPad program and determined whether or not it achieved its goals. I assessed the achievement of the goals primarily by using teacher surveys, student surveys, and information about the change in paper use after several years of the iPad program. In the final report, I discussed the goals of the program, the methods used to determine if the goals had been achieved, the extent to which each goal had been achieved, and suggestions on how the goals could be better achieved in the future.

[554- Digital Learning Experience Assignment](http://karinbrown.wix.com/dreamhome): For this assignment, I was asked to create a website with a fully-contained lesson plan that would mimic something students would encounter in their everyday lives. I decided to create a Dream Home Project for students. In the lesson I created, students first chose a city to live in and found facts about unemployment rates, educational opportunities, climate, entertainment options, and more. Next, they found a real home for sale in their chosen city and used simple mathematical calculations to determine an approximate mortgage payment. After that, students chose furniture and decorations they would like to add to their houses, and used simple mathematical calculations to determine an approximate loan payment for these items. Finally, students created a slideshow which gave information about their chosen city, house, and decorations, and also gave information about what they learned from the project.

[533- Captioned Video Project](https://www.youtube.com/watch?v=lNmCkQkuWU0) (It may be necessary to click “CC” on the video player to turn on the captions): For this assignment, there were two main objectives I sought to accomplish. First, I recorded a video blog, or vlog, outlining the pros and cons of YouTube in education. There are positive and negative aspects to virtually any technology brought into the classroom, and YouTube is no exception. The second objective for this assignment was to learn how to use captions on YouTube. Captions allow users with hearing impairments to see the words in the video on the screen, making YouTube for more accessible and user-friendly.

**Indicators**

*Collaborative Practice - Candidates collaborate with their peers and subject matter experts to analyze learners, develop and design instruction, and evaluate its impact on learners.*

For this indicator, I chose the Peer Review assignment I completed in EdTech 504. I thought this assignment fit well with the indicator because I read a classmate’s essay and gave her feedback in a respectful manner on how she could improve. This same classmate also reviewed my essay to help me improve. This process helped everyone in the class to improve their essays and learn the necessary skills to write better essays in the future. This assignment shows mastery of the indicator because the collaborative process helped me to develop better ideas, express thoughts more professionally, and design technology-rich instruction that aligns with content pedagogy. This assignment showed me how beneficial peer-reviewing and reflection can be to student learning. I learned a lot about what I wanted my essay to be like by reviewing someone else’s, and the feedback I received was also integral in making my essay better. This shows how important it is for teachers to understand how beneficial collaboration can be for students. As Junco, Elavsky, and Heiberger (2013) found, “student engagement andlearning was enhanced by web 2.0 collaboration” (p. 274). Technology and collaborative activities, when paired together, have the potential to create highly positive learning outcomes for students. In the future, when I help teachers plan technologically-enhanced lessons, I will make sure to encourage them to incorporate collaborative activities as well.

*Leadership - Candidates lead their peers in designing and implementing technology-supported learning.* First, I chose the Leadership Assignment from EdTech 554 for this standard. This assignment fits with this standard because it shows that I understand what qualities a leader in the field of Educational Technology must have to be successful. I also believe the Peer Review assignment I mentioned in the last standard fits this one as well, because it shows that I know how to lead my peers to improve themselves. These artifacts show mastery of the standard because they show my knowledge of how to lead my peers to design and implement technology-supported learning by cultivating leadership qualities in myself and giving my peers constructive feedback on how to improve. These assignments allowed me to see firsthand just how important feedback is in education and how it can be used to lead others to improve their own assignments or lessons. As Ferguson (2011) pointed out, “effective feedback is an important and valued component of student learning” (p. 52). Whether the students are adults in a graduate-level program or young children in an elementary school, feedback is essential to their learning. What’s more, the ability to politely and respectfully give feedback to others is a skill that leaders have to perfect if they hope to excel. As a technology leader in my school, I will use this knowledge to give constructive feedback to teachers, and I will also use this knowledge to encourage teachers to provide feedback for their students as well.

*Reflection on Practice - Candidates analyze and interpret data and artifacts and reflect on the effectiveness of the design, development and implementation of technology-supported instruction and learning to enhance their professional growth.*

I chose the Final Evaluation Project I completed in EdTech 505 for this standard because it gave me the opportunity to evaluate my school’s 1:1 iPad program to see if it had achieved its objectives. To determine whether the objectives had been met, I analyzed paper use data, surveyed teachers, and surveyed students. I then used this data to see what objectives had been achieved and to give suggestions about improvements that could be made for the objectives that had not been fully achieved. This assignment shows mastery of the standard because it demonstrates my ability to gather data, analyze it, and use it to reflect on how well technology has been used in the classroom and how its use could be changed to improve student learning and enhance the professional growth of teachers. It is very important to have a technology plan in place, but it is equally important to evaluate this plan at regular intervals to see what improvements could be made. In my role as a Technology Integrationist, I will use this knowledge to regularly evaluate my school’s technology plan to recommend ways to improve student learning. I will also evaluate my own performance and methods of incorporating technology into the classroom so that I can constantly make myself a better Technology Integrationist and come up with new and innovative strategies.

*Assessing/Evaluating - Candidates design and implement assessment and evaluation plans that align with learning goals and instructional activities.*

I chose the Digital Learning Experience assignment for this standard because the website I created not only contains instructions for the project, but also contains rubrics and other information about how students’ projects would be evaluated. The assessment plan for this project aligns perfectly with the learning objectives because the slideshow students create will showcase how well they learned what the teacher hoped they would learn. This assignment shows mastery of the standard because it is a prime example of a lesson plan and an evaluation plan that fit together seamlessly. Evaluation is an extremely important part of any lesson plan because it is the step that shows the teacher how well the students learned the material. This assignment taught me how important it is to create an evaluation plan that aligns with the learning outcomes so that it is easy to see how well students achieved the objectives. In the future, I will make sure to focus on aligning assessment with objectives when I help teachers plan lessons for their classrooms.

*Ethics - Candidates demonstrate ethical behavior within the applicable cultural context during all aspects of their work and with respect for the diversity of learners in each setting.*

For this standard, I chose the Captioned Video Project because it shows a conscious effort on my part to make my video accessible to all viewers, whether they have hearing impairments or not. There are many ways that technology can be adapted for those with special needs, and many of the accommodations don’t require much extra work. This artifact shows mastery of the standard because the captions I made demonstrate ethical behavior and a willingness to make technology that is accessible to a diverse population, including those with hearing impairments. This assignment showed me the importance of taking into consideration the diversity of learners who may be participating in the lessons I plan. This is especially important now that I work in an international school where a plethora of cultures, languages, and backgrounds exists in every classroom. This assignment taught me to make a conscious effort to plan activities and lessons that take students’ wide range of experiences into account, and I will make sure to continue to use this skill in the future.

**STANDARD 5: RESEARCH**

[504- Final Research Paper](https://docs.google.com/document/d/1esoaVPeor7qgsTeNbs58dmAdv4R-MUqQWXZtzWJGYTs/pub): EdTech 504 taught me about the theoretical foundations behind Educational Technology. I learned that the things I studied in this program are grounded in theories that have undergone years of research. The final project I completed for this class was a paper in which I was asked to connect a learning theory to some form of educational technology that teachers could use in their classrooms today. For my paper, I focused on the constructivist learning theory and blogs. More specifically, I discussed how blogs can help students reflect and collaborate in their classroom assignments and how discussion and reflection fit in the constructivist learning theory.

[504- Annotated Bibliography](https://docs.google.com/document/d/1zEX9o4yVl-YYGTA00kE1X92hB83fqvnDGdLI8H8cguk/pub): The annotated bibliography I wrote for this class was the precursor to the final paper I wrote about blogs and constructivism. I began this assignment with an introduction on what constructivism is and how blogs fit into this learning theory. Then, I described nine different sources that discuss blogs, constructivism, or how the two work together. Each annotation included information about the reliability of the source, the perceived purpose of the article, the main topics covered in the article, and how each article could potentially fit into my essay.

[505- Final Evaluation Project](https://docs.google.com/document/d/1j-NBfCrj0Hl5OUw5H6wOCkpKWs8TPRheBQEbZ1sPPAY/pub): This assignment was the culminating activity for EdTech 505. For this project, I assessed my school’s 1:1 iPad program and determined whether or not it achieved its goals. I assessed the achievement of the goals primarily by using teacher surveys, student surveys, and information about the change in paper use after several years of the iPad program. In the final report, I discussed the goals of the program, the methods used to determine if the goals had been achieved, the extent to which each goal had been achieved, and suggestions on how the goals could be better achieved in the future.

[501- Annotated Bibliography](https://docs.google.com/document/d/1cNHeUD-e1hjnHRWGcs8imV0RaOJjtOQWhkLNe-PnoW8/pub): This annotated bibliography had to do with the research on the use of graphic calculators in middle school and high school math classrooms. I began the assignment with a discussion of what graphing calculators can do for students and how students’ learning can benefit from using these tools. After completing the discussion, I went on to cite five sources that show the importance of graphing calculators in math teaching. Each annotation contains a brief summary of the article, as well as a description of how it supports my argument for bringing graphing calculators into middle school and high school math classrooms.

**Indicators**

*Theoretical Foundations - Candidates demonstrate foundational knowledge of the contribution of research to the past and current theory of educational communications and technology.*

For this indicator, I chose the final research paper I wrote in EdTech 504 because in this paper, I showed how the educational theory of constructivism can be used with student blogs. Constructivism is based largely on the ideas of educational researcher Jean Piaget, born in1896, so this pedagogy has a clear connection to past educational theories. However, constructivism, which emphasizes the importance of learners interacting with the material to learn from their own environment, is still relevant and widely used today. When connections are made between constructivism and blogs, as they were in the paper I wrote, it is easy to see how the assignment shows mastery of the indicator. What’s more, research shows that constructivism relates to many forms of educational technology other than blogs. Denton (2012) demonstrated this when he made the connection between constructivism and cloud computing. He stated, “Constructivism suggests that students integrate prior knowledge with unfamiliar information to create new learning. Cloud applications contain tools that support activities for accessing prior knowledge such as retrieving and sharing information” (p. 35). Constructivism is an important educational theory, and it also has many implications for educational technology. In my role as a Technology Integrationist, I will do my best to incorporate constructivist principles into the technology-rich lessons I plan with teachers so that students will have the opportunity to have meaningful interactions with the content and to discover the material for themselves.

*Method - Candidates apply research methodologies to solve problems and enhance practice.*

For this standard, I chose the Annotated Bibliography I completed in EdTech 504. I chose this assignment because it shows my knowledge of how to conduct research to find evidence of the positive effects of technology in the classroom. I wrote about blogs and how their capabilities for writing and commenting make them perfect candidates to help students give and receive feedback and reflect on their learning. This assignment shows mastery of the standard because I conducted research and found credible articles to support my belief that blogs had the potential to fit with the constructivist learning theory. This assignment taught me an interesting lesson when it showed me that research is not only a very powerful tool for scientific researchers, but for educators as well. In their article describing research on testing strategies, Agarwal, Bain, and Chamberlain (2012) found that the collaboration between educators and scientists taught both groups something new about research. They stated, “Middle school teachers and administrators became well versed in scientifically rigorous research, while university professors and scientists gained extensive experience in the implementation of classroom-based research” (p. 438). As this statement shows, research is not only beneficial for scientists or those with Ph.D. degrees; it can have positive benefits for anyone. This assignment, and the research process I used to complete it, taught me the importance of conducting research to support my claims. I also now have the skills to effectively conduct research so that I can find and implement the most effective educational technology strategies with teachers in my school.

*Assessing/Evaluating - Candidates apply formal inquiry strategies in assessing and evaluating processes and resources for learning and performance.*

I chose the Final Evaluation Project I completed in EdTech 505 for this standard because, for the project, I used multiple strategies to determine if my school’s 1:1 iPad program had achieved its objectives. I analyzed data about paper use, conducted surveys with teachers, and also conducted surveys with students. I then used the results of these analyses to determine whether the program’s objectives had been met. This assignment shows mastery of the standard because I used formal inquiry strategies to evaluate the process of the 1:1 iPad program to determine how successful it had been. These results then helped me give teachers and administrators suggestions on how to improve the program in the future. Evaluation is an important part of any educator’s job. Not only do teachers evaluate students to see what they’ve learned, but they evaluate themselves to see how effectively they are conveying the material to students. Evaluation is an essential component for any professional who wishes to grow in his or her career. In the future, I will ensure to constantly evaluate my own performance to see how I can better help teachers at my school integrate technology into their classrooms.

*Ethics - Candidates conduct research and practice using accepted professional and institutional guidelines and procedures.*

For this standard, I chose the Annotated Bibliography I completed in EdTech 501. I chose this assignment because one of the main objectives was to teach us how to use the APA guidelines for citations and formatting. What’s more, I also found credible articles about the importance of using graphing calculators in math classrooms, which shows my ability to conduct professional research. This artifact shows mastery of the standard because it demonstrates my ability to conduct research, cite sources, and follow formatting according to guidelines created by professional institutions. In any career, there is always more to be learned. The ability to effectively and responsibly conduct research is an invaluable skill, often used to better one’s knowledge of his or her profession. While I completed this assignment, and other research assignments throughout the EdTech program, I gained invaluable research skills. I will use these skills in the future as I gather information on new educational technologies and work with teachers to implement them into their classrooms.

**CONCLUSION**

When I look back on everything I have learned over the last two years, I can safely say that the Master of Educational Technology program has changed the way I look at Educational Technology. Throughout this program, I learned more than I thought possible about engaging students with technology, evaluating technological programs, and planning lessons that seamlessly integrate technology into the classroom. The most important takeaways I gained from this program have to do with student learning. As a former high school math teacher, I taught using notes and lectures because that’s the way I was taught and I didn’t know any differently. Now, I see that this type of teaching is not effective in engaging students or motivating them to learn. It is crucial that students have the opportunity to explore and interact with the material so they can discover it for themselves. With all the technology available in today’s schools and classrooms, there is no shortage of ways to excite and engage students in the material.

I initially enrolled in the EdTech program because my school had recently implemented a 1:1 iPad program and I wanted to learn more about using technology in the classroom. However, over the last two years, this degree has come to mean so much more. It has shown me how technology can be used to plan lessons that motivate and inspire students. I’ve also learned how technology can be used to turn good teachers into great ones without adding hours of time to their workload. Throughout the course of this program, my passion for technology and its capabilities to help students has grown more than I ever could have anticipated. It because of this program that I applied for and accepted a position as a Technology Integrationist, where I can live out my passion for Educational Technology on a daily basis by helping teachers plan technology-rich lessons. Because of the things I learned from the EdTech professors, I hope to help the teachers at my school become even better than they are now so that our students have the best opportunities available to them in the future.

**REFERENCES**

Agarwal, P. K., Bain, P. M., & Chamberlain, R. W. (2012). The value of applied research:

Retrieval practice improves classroom learning and recommendations from a teacher, a

principal, and a scientist. *Educational Psychology Review, 24*(3), 437-448.

Akkuzu, N., & Akçay, H. (2011). The design of a learning environment based on the theory of

multiple intelligence and the study of its effectiveness on the achievements, attitudes, and

retention of students. *Procedia Computer Science, 3*, 1003-1008.

Almazroa, H. (2013). Professional development: A vision for Saudi science teachers. *A paper*

*presented in the annual conference of European Science Education Research Association*

*(ESERA), Nicosia, Cyprus.*

Amir, Z., Ismail, K., & Hussin, S. (2011). Blogs in language learning: Maximizing students’

collaborative writing. *Procedia-Social and Behavioral Sciences, 18,* 537-543.

Bowen, W. G., Chingos, M. M., Lack, K. A., & Nygren, T. I. (2014). Interactive learning online

at public universities: Evidence from a six-campus randomized trial. *Journal of Policy*

*Analysis and Management, 33*(1), 94-111.

Denton, D. W. (2012). Enhancing instruction through constructivism, cooperative learning, and

cloud computing. *TechTrends, 56*(4), 34-41.

DePoy, E., & Gitlin, L. N. (2015). *Introduction to research: Understanding and applying*

*multiple strategies.* Saint Louis, MO: Elsevier Health Sciences.

Ferguson, P. (2011). Student perceptions of quality feedback in teacher education. *Assessment &*

*Evaluation in Higher Education, 36*(1), 51-62.

Houston, M., & Lin, L. (2012). Humanizing the classroom by flipping the homework versus

lecture equation. *Society for Information Technology &Teacher Education International*

*Conference, 2012*(1), 1177-1182.

Januszewski, A. & Molenda, M., Eds. (2008). Educational technology: A definition with

commentary. New York: Taylor & Francis. Retrieved from  [https://c.ymcdn.com/sites/ aect.site-ym.com/resource/resmgr/AECT\_Documents/=AECT\_Standards\_adopted7\_ 16\_2.pdf](%20https://c.ymcdn.com/sites/%20aect.site-ym.com/resource/resmgr/AECT_Documents/=AECT_Standards_adopted7_%2016_2.pdf)

Junco, R., Elavsky, C. M., & Heiberger, G. (2013). Putting twitter to the test: Assessing

outcomes for student collaboration, engagement, and success. *British Journal of*

*Educational Technology, 44*(2), 273-287.

Moreno, M. A., Egan, K. G., Bare, K., Young, H. N., & Cox, E. D. (2013). Internet safety

education for youth: Stakeholder perspectives. *BMC Public Health, 13*(1), 543.

Nikitina, L. (2012). Addressing pedagogical dilemmas in a constructivist language learning

experience. *Journal of the Scholarship of Teaching and Learning, 10*(2), 90-106.

Parker, J., & Heywood, D. (2013). Exploring how engaging with reflection on learning generates

pedagogical insight in science teacher education. *Science Education, 97*(3), 410-441.